

Abstract of the Disclosure

One embodiment of the present invention is a method for electrofilling a metal or alloy inside at least one opening located in a front surface of a substrate, said front surface of the substrate includes the at least one opening and a top field surrounding the at least one opening, said at least one opening includes a bottom and sidewalls surfaces wherein at least the bottom surface comprises an exposed metallic surface, said method includes steps of: (a) immersing the substrate in an activation (or wetting) solution; (b) applying ultrasonic or megasonic vibrations to the substrate and to the activation (or wetting) solution; (c) applying high pressure electrolyte jets to the substrate, said electrolyte includes metallic ions of said metal or alloy; and (d) applying an electroplating current to the substrate to electroplate said metal or alloy inside the at least one opening.